

B2
a USB device to the serial bus and which serializes and de-serializes packets on the bus for the device, and an interfacing device 60 that includes a USB control block 62 with an endpoint register file for the device, one or more dedicated memory blocks 66, 68, 70, 72, and one or more finite state machines including a setup module 74. A memory block 68, 70, 72 and an associated finite state machine (not shown) operate to support the functionality of an endpoint. In the embodiment shown, one memory block 66 associated with the configuration endpoint holds operating data. This memory block 66 preferably includes read-only memory for storing descriptor strings. Alternatively, the descriptor strings are stored in the fixed programming of the setup module 60, which is described in detail below. Another dedicated memory block 72 holds control information for an endpoint that supports interrupt pipe transfers and an associated finite state machine (not shown) interprets the command information sent by means of the interrupt pipe transfers. Additionally, there are dedicated memory blocks for endpoints that support data transfers, one memory block 68 for the IN direction and one block 70 for the OUT direction. A function engine 76 that includes optional A/D and D/A circuitry and a FSM, for controlling the A/D and D/A circuitry, connects to the dedicated command, IN and OUT memories.
